

*Coastal Engineering Research Board Meeting
San Francisco, CA*

ERDC
Engineer Research and
Development Center

Research and Development for Sustainable West Coast Projects

Bill Curtis
September 9, 2014



**US Army Corps
of Engineers®**

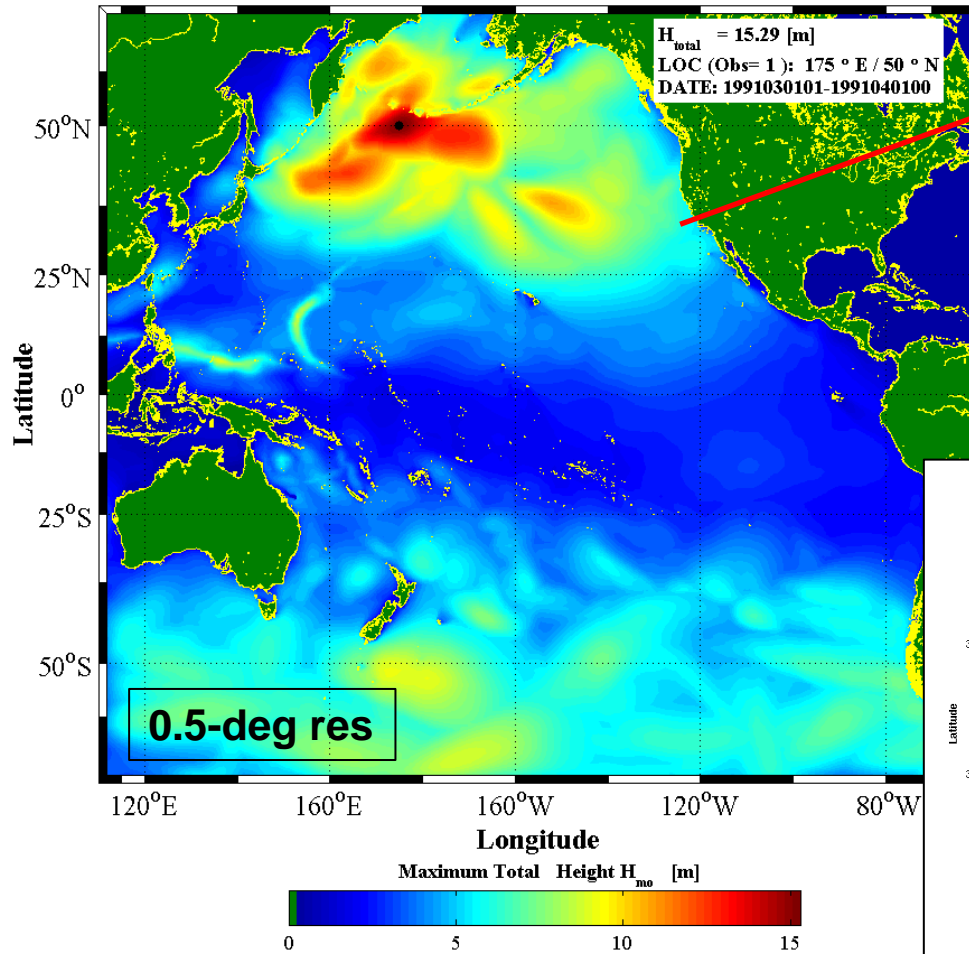


www.destinatoin360.com

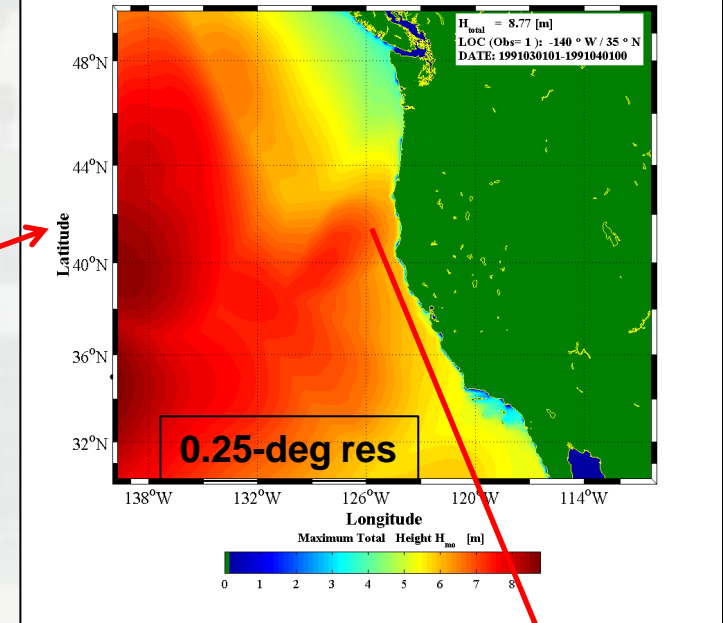
Wave Information Study: Pacific v.3

<http://wis.usace.army.mil>

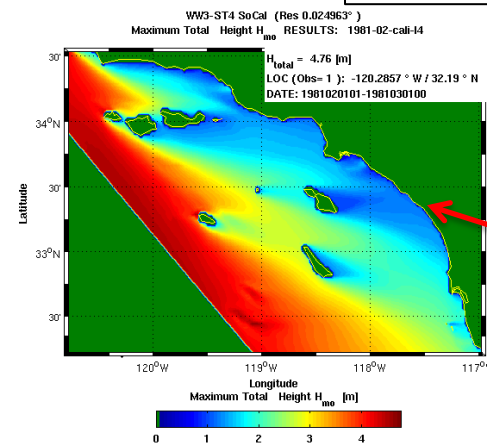
WW3-OWI Pacific (Res 0.5°)
Maximum Total Height H_{mo} RESULTS: 1991-03



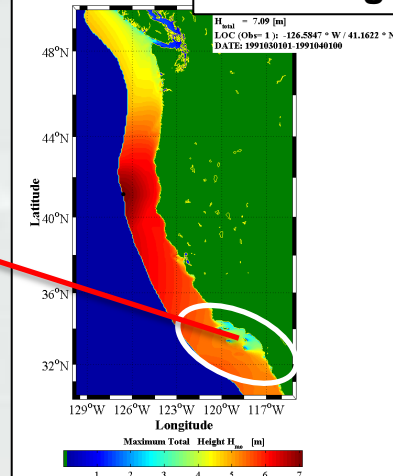
WW3-OWI US-Coast (Res 0.25°)
Maximum Total Height H_{mo} RESULTS: 1991-03



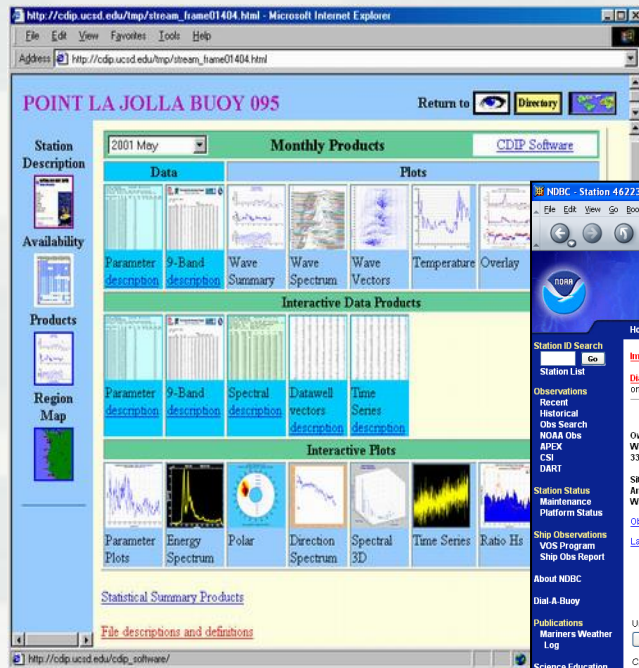
0.02-deg



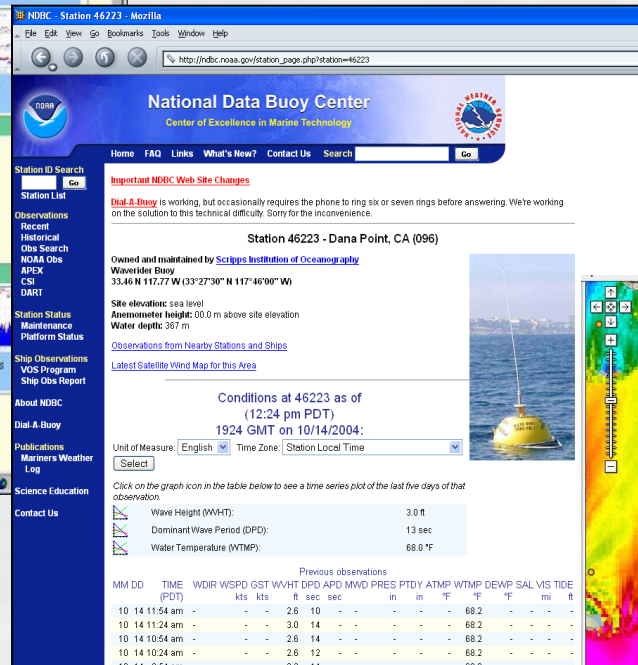
0.083-deg



Coastal Data Information Program



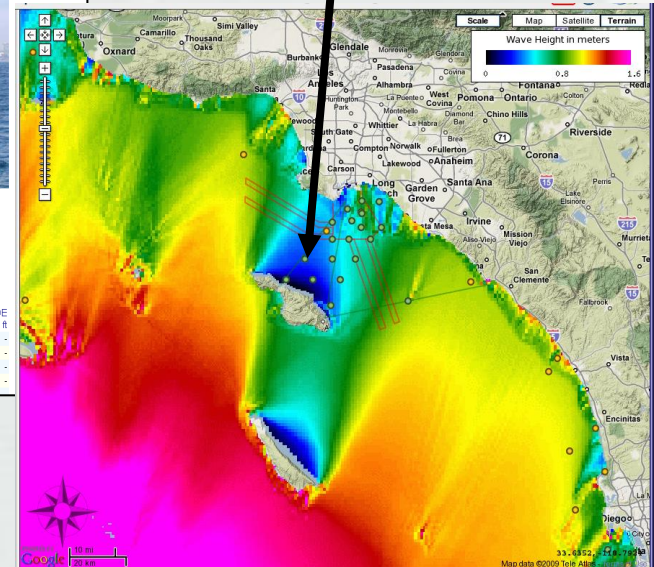
<http://cdip.uscd.edu>



<http://ndbc-noaa.gov>



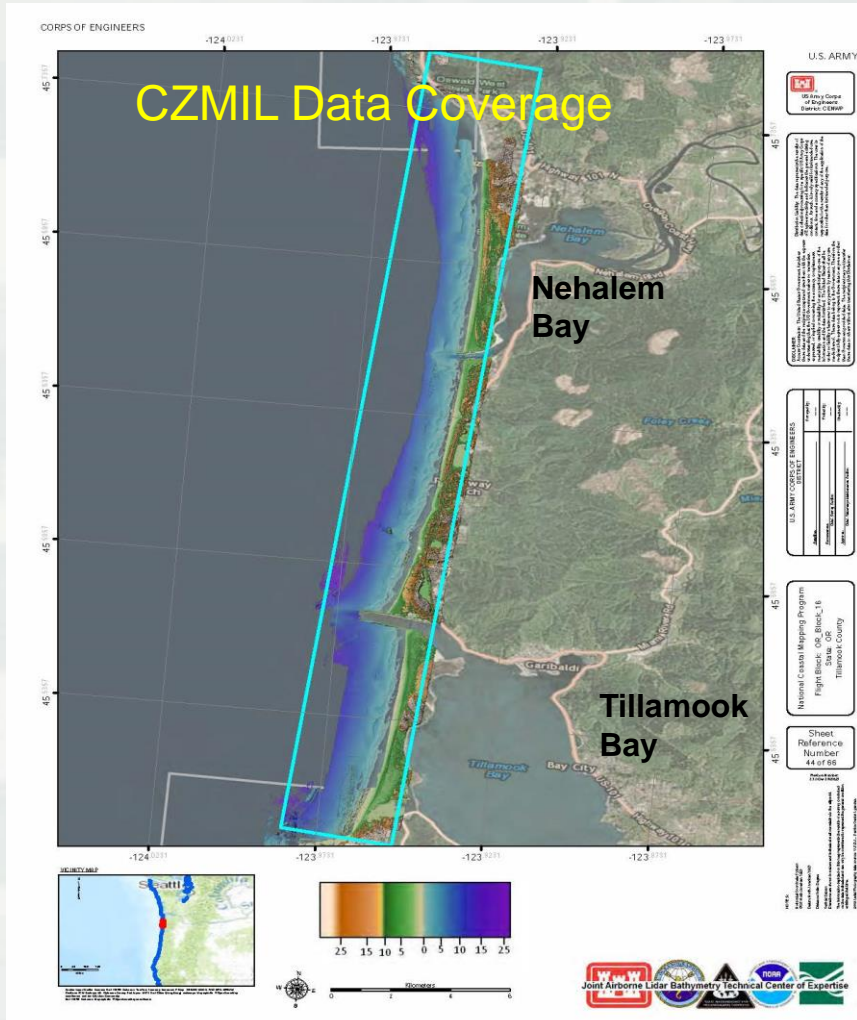
Corps Disposal Site



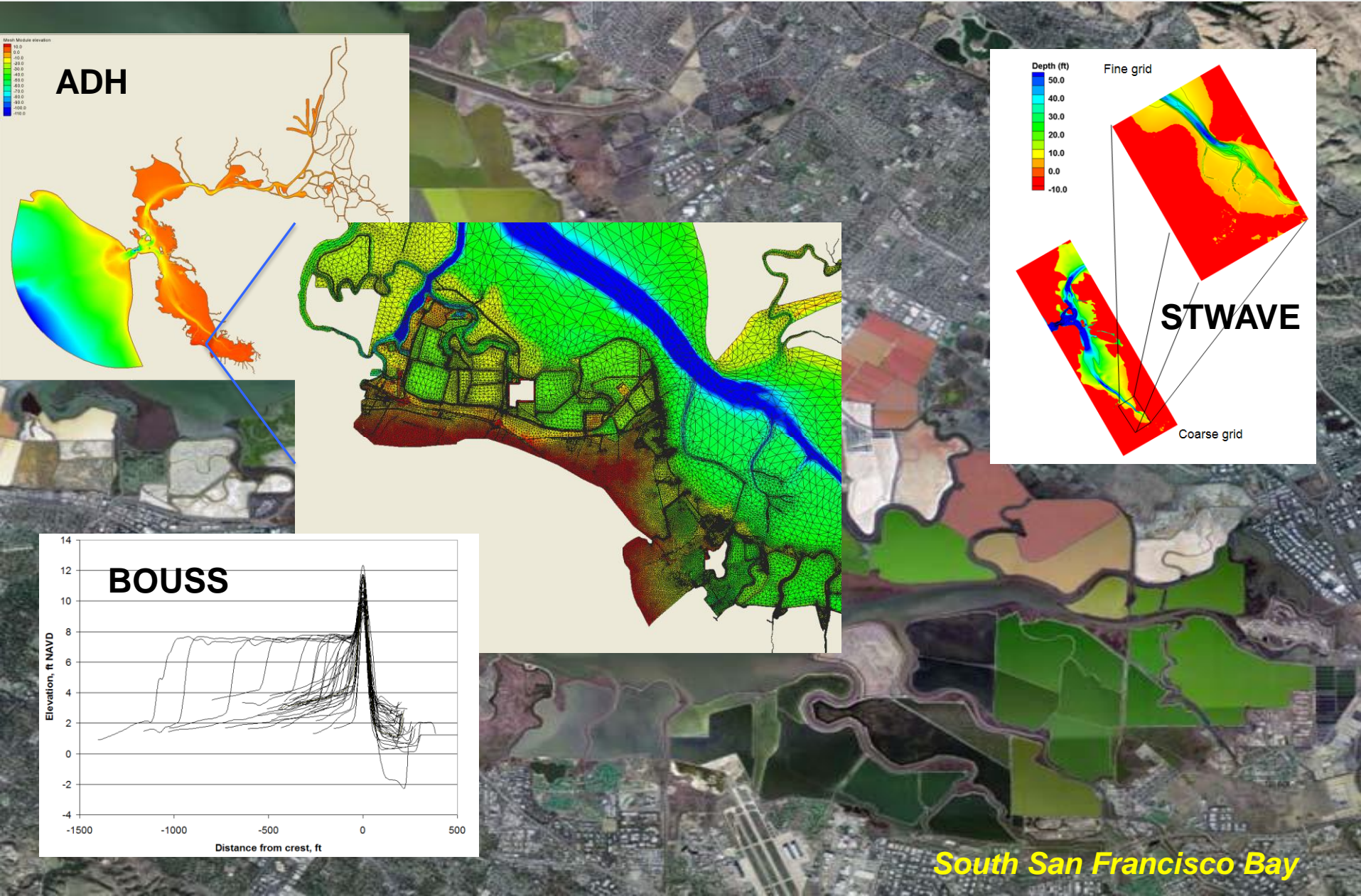
<http://www.sccoos.org/>

National Coastal Mapping Program

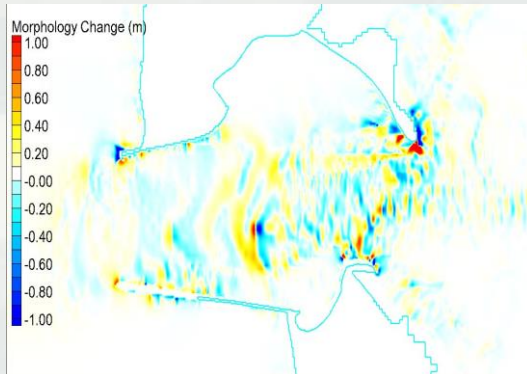
2014 Survey Season



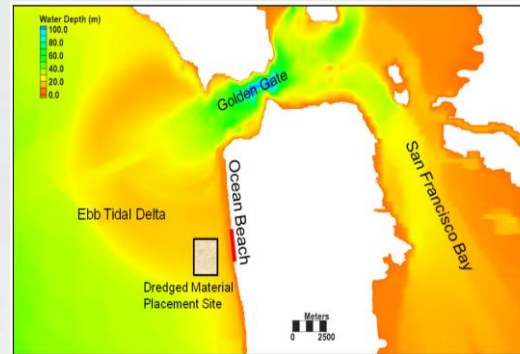
Estuarine Hydrodynamics



Inlet and Harbor System Management



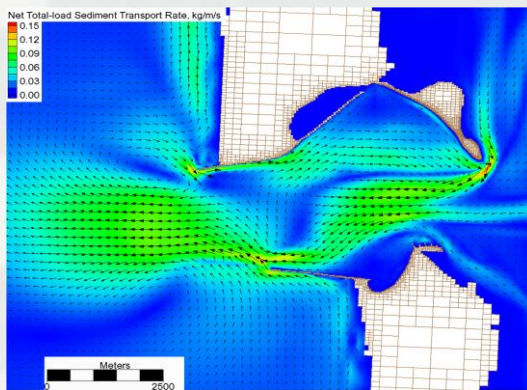
Grays Harbor, WA



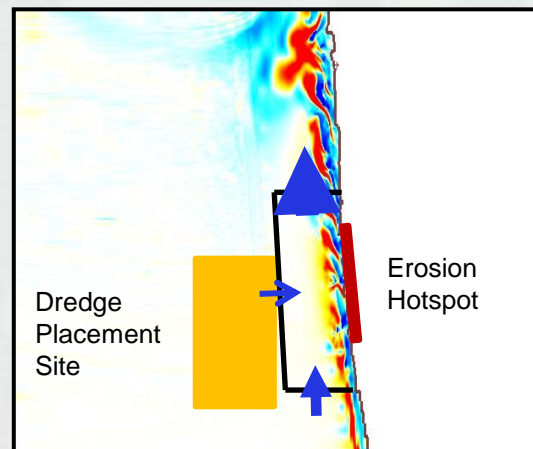
Ocean Beach, CA



Dana Point, CA



CMS

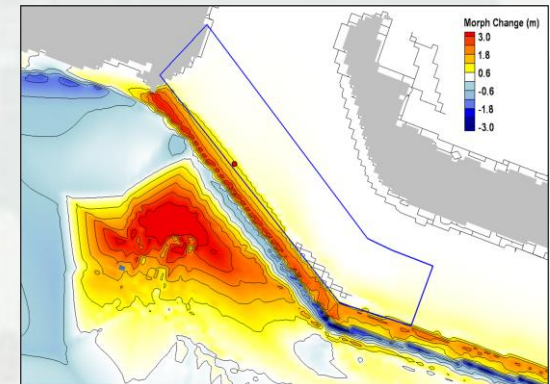


ADCIRC

MPFATE

ADH

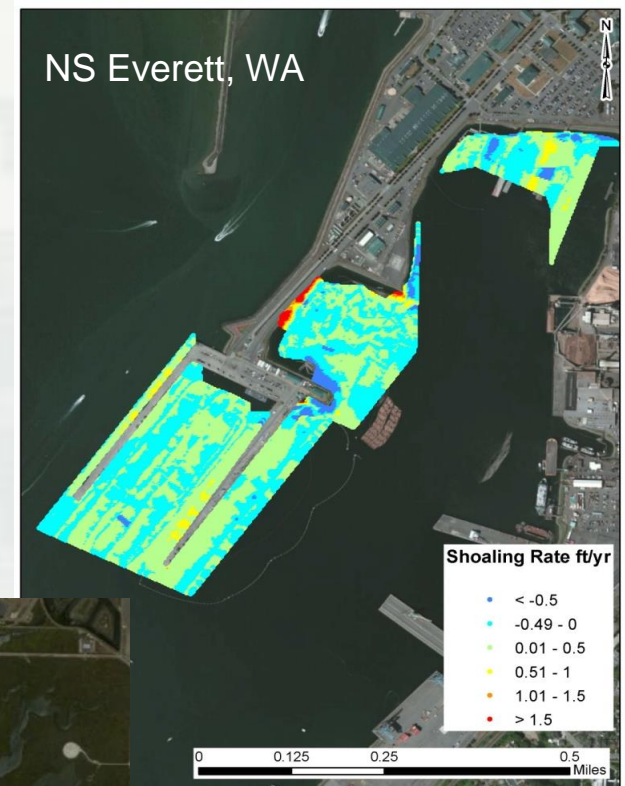
PTM



BOUSS

LTFATE

USN Fleet Concentration Area Shoaling



Asset Management Dredge Work Package Formulation

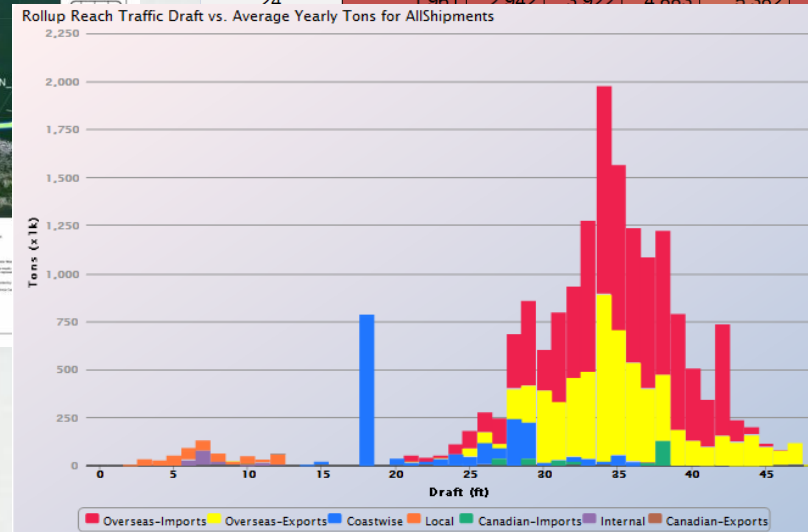
R&D Product Integration:

- e-Hydro
- Corps Shoaling Analysis Tool
- Channel Prediction Tool



Columbia River, CENWP

Target Elevation (ft)	Time until Dredging Takes place (Years)						
	1	1.5	2	2.5	3	3.5	4
45	21.821	11.368	6.832	5.040	4.130	3.599	3.278
44	21.821	11.368	6.832	5.040	4.130	3.599	3.278
43	21.821	11.368	6.832	5.040	4.130	3.599	3.278
42	26.980	15.868	8.649	5.945	4.673	3.965	3.546
41	35.778	26.927	11.954	7.314	5.419	4.439	3.880
40	34.206	31.812	14.437	8.168	5.747	4.558	3.900
39	26.026	32.891	15.580	7.658	4.982	3.781	3.148
38	23.572	31.945	18.363	8.654	5.329	3.899	3.170
37	22.254	32.557	25.002	10.924	6.166	4.286	3.376
36	20.493	30.290	27.720	12.778	6.841	4.570	3.507
35	18.157	27.119	30.881	15.535	7.630	4.810	3.566
34	15.466	23.143	28.063	16.561	7.959	4.803	3.458
33	12.328	18.481	23.971	17.640	8.183	4.625	3.199
32	9.286	13.924	18.264	15.543	7.593	4.140	2.769
31	7.270	10.905	14.467	14.660	7.740	3.994	2.549
30	5.982	8.973	11.926	12.968	7.729	3.946	2.440
29	4.629	6.944	9.246	10.850	7.605	3.819	2.257
28	3.869	5.803	7.731	9.281	7.321	3.842	2.219
27	3.341	5.011	6.680	8.209	7.453	4.166	2.326
26	2.792	4.188	5.583	6.899	6.754	4.137	2.303
25	2.317	3.475	4.633	5.757	6.121	4.230	2.345
24	1.961	2.942	3.922	4.883	5.382	4.091	2.359
						3.842	2.340
						3.597	2.360
						3.522	2.547
						3.066	2.405



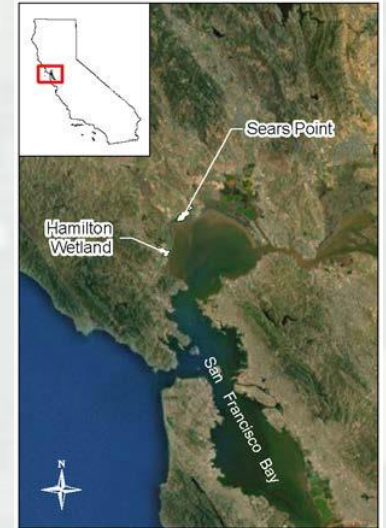
Wetland Sediment Processes



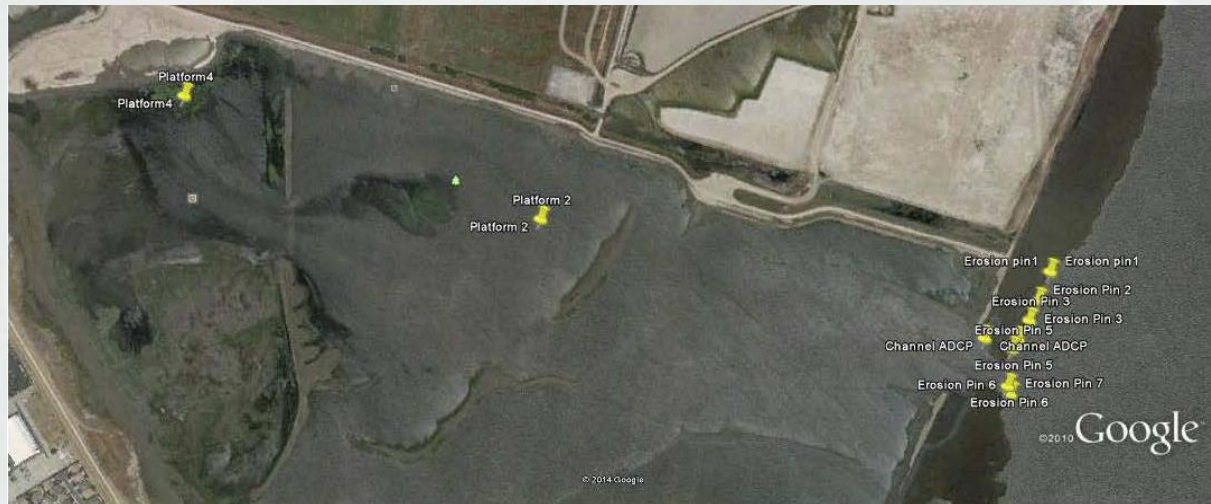
Acoustic Doppler Velocimeter



Instrument Platform & RTU

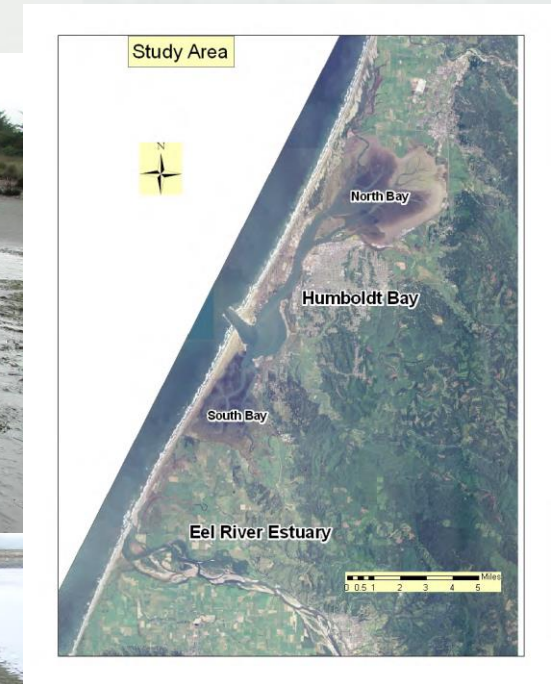
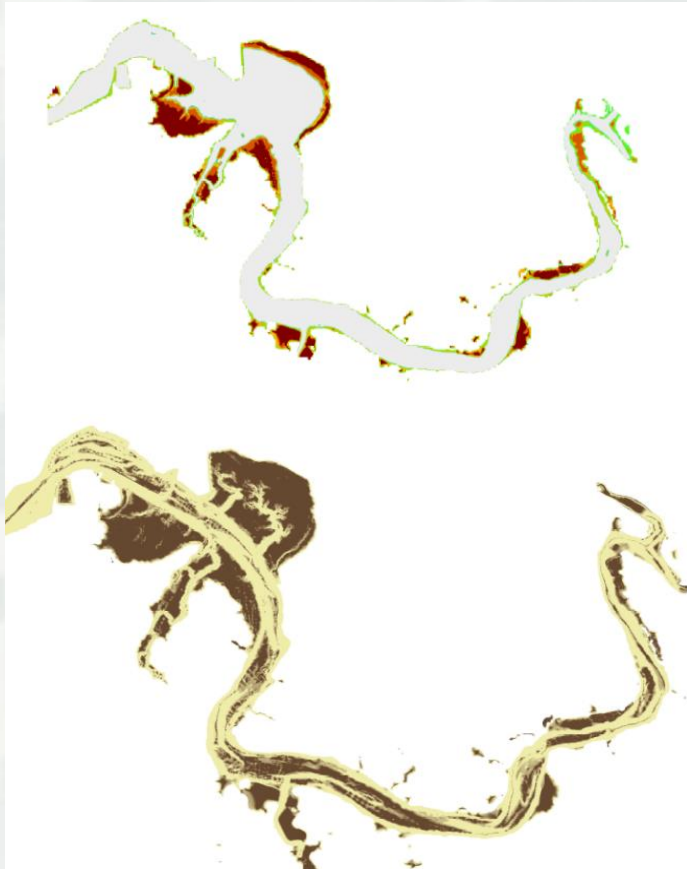


Bentonite/Feldspar Plot



Hamilton Wetland Restoration, San Pablo Bay, CA

Invasive Sea Grass Impacts: *Z. japonica*



Manning *et al.*
(www.coastal.ca.gov)

Thank You



Ocean Beach, CA
(www.surflife.com)

ERDC

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